

Zika

From the Brazilian backlands to global threat

Reviewed by Meg Stalcup

Debora Diniz, *Zika: From the Brazilian Backlands to Global Threat*. Translated by Diana Grosklaus Whitty. London: Zed Books, 2017. Paperback, 156 pp., \$24.95. ISBN: 9781786991584.

From the end of 2014 through the end of 2015, a scientific mystery unfolded in Brazil. An infection was circulating, which doctors recognized as a virus most likely transmitted by the familiar *Aedes aegypti* mosquito. The disease was in due course identified as Zika, the first twist in a larger plot. Within months, maternity wards in northeastern Brazil were filled with babies severely affected with microcephaly (abnormally small heads, indicating problems with brain development). This became the next riddle, one far more terrible. In a slim new book, *Zika: From the Brazilian Backlands to Global Threat*, Brazilian anthropologist and professor of bioethics Debora Diniz tells this story with all its characters. A scientific mystery, the detectives were not only virologists using samples and polymerase chain reactions to sequence and identify the culprit. They were also obstetricians and pediatricians, listening to their patients' stories, working to translate the messages delivered by obstinate bodies, as well as patients and their families.

Zika eschews the numbering of chapters and familiar format of anthropological monographs in favor of a largely chronological unfolding of the two major events: identification of the virus and its association with microcephaly. The book's sections begin with 'Telling the Story' and conclude with 'Implications for Women Worldwide'. From February to June of 2016, Diniz took frequent trips from Brasília to the northeast, where she spent time with and interviewed families, doctors, and scientists. A cast of 'principal characters' is provided, just

after a note from the translator, Diane Grosklaus Whitty, and before an annotated timeline that goes from April 2015 to June 2016. These sections include only people and incidents covered in the book, and thus will be more useful for the reader's orientation than as a definitive compendium of the time period.

Zika, as it turns out, infects and crosses the placental barrier, shows a marked preference for attacking the nervous system, and can cause a wide range of neurological effects (Noronha et al. 2016). It can be sexually transmitted, and hides in certain locations of the body (Morens and Fauci 2017). Yet while much has been learned since the virus appeared in Brazil, the enigma also continues. One serious question is why there were so many affected babies born in northeastern Brazil, where the epidemic appeared and was concentrated, but far fewer in other places it spread in the country, let alone the rest of Latin America. Another question is what the future will hold for the long-term health and capacities of infants exposed to the infection before birth, even those born in seemingly good health. A spectrum of effects has been placed under the umbrella of 'congenital Zika syndrome', and the fear is that more symptoms will manifest as these children mature.

The book centers around an anthropological insistence on acknowledging the names and human lives of those who lived through these events. In biomedical journal articles, we find only 'two pregnant women from Paraíba', whose fetuses showed brain calcifications and who decided to donate amniotic fluid to confirm a link to the Zika virus: Conceição, mother of Catarina Maria, and Gêssica Eduardo dos Santos, whose son did not survive long past birth. Despite her grief, Gêssica gave up her baby's body for research, saying 'I didn't want to be selfish, with all the mothers in the world not having an answer' (p. 55). Woven through this tale are ideals of altruism and Brazilian motherhood, themes of interest to anthropologists, which were important for identifying the virus and its link to microcephaly, and in the ongoing process of learning how to best help the affected children.

As she examines facets of this epidemic appearing in Brazil, Diniz also provides a case study of the ways that gender, class, race, and place shape science and medicine. Doctors in the politically marginalized and poor northeast – the 'Brazilian backlands' of the title – identified the circulating infection as Zika from its clinical presentation. Laboratory confirmation came from a husband-and-wife virology team at the Federal University of Bahia, also in the northeast. A set of doctors, this time almost all women, perceived the shocking increase in babies with microcephaly; an obstetrician, Dr. Adriana Melo, then linked microcephaly to the presence and transmission of the virus in utero. Yet, a prestigious, better-funded, institutional branch of the national Oswaldo Cruz Institute beat the Bahian team to publication, and another major institute's announcement that Zika was found in a baby with microcephaly was cited by the Ministry of Health, rather than the prior two cases

documented by Dr. Melo. While scientific competition is par for the course, and some northeastern experts did become widely recognized, Diniz points to the fact that clinicians on the ground – where nearly 45 percent of the population live below the poverty line, compared to 25 percent of Brazil as whole – collaboratively solved this mystery. If crucial funding for future research largely follows credit for discoveries, this region where the epidemic appeared will remain appallingly underserved.

Another subplot to the epidemic concerns the ways that events were covered in the media. Major announcements were made to journalists before peer-reviewed publications, researchers' pressing sense that the public needed the information without delay mixing with concern among some that their scientific discoveries would not be taken seriously. Physicians serving far-flung populations participated in WhatsApp messaging groups, where they shared their patients' symptoms, photos of rashes and edema, and tracked clues about what was happening. These networks proved paramount to eventually solving the mystery. Diniz also tracks the emerging biosociality of being a Zika parent. This has developed in many ways through social media, as mothers offer each other support, exchange information about government services, and share observations of their daughters and sons. Scholars of traditional and new media will find that while infrastructures of communication were not the focus of Diniz's inquiry, they compellingly emerge nonetheless.

The text moves confidently through a factual recounting of events. As it does not enter into debates or literature in ethics or anthropology, it will be a fast read for any interested member of the general public. It can be usefully adapted to undergraduate teaching, where instructors may bring in background and theoretical approaches pertinent to diverse courses, such as in introductory classes on Brazil and Latin American, medical anthropology, women and gender studies, the sociology or anthropology of science, and science and technology studies.

In a very real way, Diniz points out, the culprit behind Zika's havoc is inequality. It is no coincidence that the first and hardest hit were women in the northeast, an often-sweltering region where mosquitos thrive as people are forced to capture and store their own drinking water, sewage disposal is inadequate, and many houses lack screens for their windows. These women have been handed the impossible burden of preventing their own infection. Diniz argues that there must be real options for reproductive health, including contraception and termination of pregnancy (p. 108). At the same time, there are families now struggling to manage the profound needs of their affected children, and Diniz stresses their sense of abandonment and the inadequacies of state programs. The threat is not equally distributed, she underscores, and the way that Zika's next chapter is written will ultimately say more about the value accorded to women's reproductive rights and equitable public health than the virus itself.

About the author

Meg Stalcup is a visual and medical anthropologist, and assistant professor in the School of Sociological and Anthropological Studies at the University of Ottawa (see <https://uniweb.uottawa.ca/#!uottawa/members/957/profile>). Her research and teaching explore the intersections of technology and data with cities, security, science, and ethics, drawing on fieldwork in Brazil, the United States, and Canada. This research was supported by the Social Sciences and Humanities Research Council of Canada.

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